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1. (First Amended) A method for non-destructive evaluation of a specimen, comprising the steps of:
heating the specimen;
applying a force to the specimen, wherein the magnitude of the force is sufficient to exacerbate a thermal discontinuity caused by a subsurface defect of said specimen; and
generating an infrared image to detect the presence of a subsurface defect.

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6. (First Amended) The method of claim 5, wherein the sealed enclosure is divided into two sections such that the vacuum generated in said vacuum generating step produces a vacuum in one of the two sections.

7. (First Amended) The method of claim 1, wherein said applying step includes increasing and decreasing the force on the specimen surface, wherein said image generating step includes generating a first thermographic image when the force is increased and generating a second thermographic image when the force is decreased, and wherein the method further comprises the step of comparing the first and second thermographic images to detect the subsurface defect.

8. (First Amended) The method of claim 7, wherein the image generating step generates a plurality of first thermographic images and a plurality of second thermographic images over time, and wherein the comparing step is conducted by calculating the difference of the sums of the first thermographic images and the second thermographic images.

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cont.*

9. (First Amended) The method of claim 7, wherein the image generating step generates a plurality of first thermographic images and a plurality of second thermographic images over time, and wherein the comparing step includes generating histograms corresponding to the plurality of first and second thermographic images and comparing the histograms for the plurality of first thermographic images with the histograms for the plurality of second thermographic images.

10. (First Amended) The method of claim 7, wherein the image generating step generates a plurality of first thermographic images and a plurality of second thermographic images over time, and wherein the comparing step includes mathematically correlating the plurality of first thermographic images with the plurality of second thermographic images.

11. (First Amended) The method of claim 7, wherein the image generating step generates a plurality of first thermographic images and a plurality of second thermographic images over time, and wherein the comparing step includes viewing an image corresponding to the ratio between the plurality of the first thermographic images and the plurality of the second thermographic images.

12. (First Amended) The method of claim 7, wherein the image generating step generates a plurality of first thermographic images and a plurality of second thermographic images over time, and wherein the comparing step includes visually comparing the plurality of first thermographic images and the plurality of second thermographic images.

13. (First Amended) The method of claim 7, wherein the applying step includes placing the specimen in a chamber before said image generating step.

14. (First Amended) The method of claim 7, wherein the applying step includes placing a sealed enclosure on the specimen surface before said image generating step.

15. (First amended) A method for non-destructive evaluation of a specimen, comprising the steps of:

heating the specimen;

placing a sealed enclosure on a surface of the specimen;

applying a vacuum to at least a portion of the surface of the specimen by decreasing the air pressure in the sealed enclosure, wherein the vacuum from the applying step enlarges at least one dimension of the subsurface defect to create a thermal discontinuity; and

generating an infrared image to detect the presence of a subsurface defect.

18. (First Amended) An apparatus for non-destructive evaluation of a specimen, comprising:

a heat-sensitive image generator that generates thermographic images;

a heater that increases the temperature of the specimen; and

means for applying a force to the specimen, wherein the applying means changes at least one dimension of a subsurface defect in the specimen to create a thermal discontinuity.

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20. (First Amended) The apparatus of claim 18, wherein said applying means includes:

a sealed enclosure that is placed on the specimen's surface; and

a vacuum pump that generates a vacuum inside the sealed enclosure.

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23. (First Amended) The apparatus of claim 18, wherein said applying means includes:

a chamber for holding the specimen; and

a vacuum pump that generates a vacuum inside the chamber.

REMARKS

Reconsideration and allowance are respectfully requested. Claims 1-28 are currently pending and stand rejected by the Examiner. Applicant has amended claims 1, 6-15, 18, 20 and 23. No new matter has been added.

Claim objections

The Office Action objected to claims 7, 15, 20 and 23 because of various minor informalities. Applicant has amended the claims according to the Office Action's helpful suggestions to overcome the objections. These amendments are formal in nature only and are not intended to change the scope of the claims or limit their range of equivalents. Withdrawal of the objection to claims 7, 15, 20 and 23 are therefore respectfully requested.